

Study #SP-R13 Recreation Surveys

December 11, 2001

1.0 Introduction/Background

Recreation surveys are an integral part of recreation studies. Surveys will be used to collect information that address objectives of several studies. Existing surveys that have been conducted in the Study Area, as well as other studies of water-related recreation will be reviewed. A list of these studies is included in Attachment A. This information will be used to help determine topics of interest to visitors who participated in previous surveys and guide future survey development efforts. The California Department of Parks and Recreation (DPR) statewide survey, conducted every 5 years, will also be used.

2.0 Study Objectives

The objectives of this study are to determine user preferences for facility and area development; perceptions of crowding; levels of satisfaction; reasons for visiting the area; reasons for not visiting the area; and background characteristics.

3.0 Relationship to Relicensing/Need for the Study

This study is needed because Federal Energy Regulatory Commission (FERC) regulations require a comprehensive recreation plan. FERC regulations also state that a “well documented user survey is an essential part of a good recreation plan.” (FERC 1996).

The most recent major visitor questionnaire study conducted for the Study Area was the 1996 study conducted by Guthrie et al. (1997). This study examined existing recreation use levels and asked visitors entering controlled access area to complete a brief survey. This survey asked questions about: whether or not the trip was the first visit; specific activities in which visitors participated; lengths of stays; daily expenditures; visitors' residence locations; satisfaction with existing facilities; and desire for additional facilities and recreation opportunities. The study did not address crowding and carrying capacity issues, nor did it provide or ask for a great deal of detail regarding satisfaction with the respondents' recreation visits to the Study Area. The other major recreation study relevant to this effort is the DPR study currently under development. This will query visitors at a variety of state parks and state recreation areas, including the Lake Oroville State Recreation Area (LOSRA). However, the information to be collected is fairly broad and will be more useful for state-level strategic planning, than for assessing preferences about specific management problems or Study Area development scenarios.

This study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demand. It specifically addresses Issues RE 1, 2, 5-39, 53, 55, 56, 60, 61, 64-83, 85, 95, 96, 104 and 105.

4.0 Study Area

The Study Area includes Lake Oroville, the lands and waters within and adjacent to (1/4 mile) the FERC project boundary, and adjacent lands, facilities, and areas with a clear project nexus. Specific areas and facilities where questionnaires will be given to visitors include the following:

- Thermalito Afterbay facilities
- Thermalito North Forebay facilities
- Thermalito South Forebay facilities
- Diversion Pool facilities
- Spillway Boat Ramp/Overflow Camping
- Dam/Overlook Area
- Lake Oroville Visitor Center
- Bidwell Canyon Marina and other nearby facilities
- Car-Top Boat Launch Areas (BLAs) such as Stringtown, Dark Canyon, Foreman Creek, Nelson Bar, and Vinton Gulch
- Low flow channel of the Feather River
- Clay Pit State Vehicular Recreation Area (SVRA)
- Feather River fish hatchery (public areas)
- Loafer Creek facilities
- Lime Saddle Marina and other nearby facilities
- Foreman Creek Boat-In Campsite (BIC)
- Enterprise BLA
- Craig Saddle BIC
- Bloomer Primitive BIC
- Goat Ranch BIC
- Oroville Wildlife Area (OWA)
- Selected Primary Equestrian Trailheads
- Selected Primary Mountain Bike/Hiking Trailheads

5.0 General Approach

Task 1—Identify Primary Target Groups and Topics

The Study Plan task force will help identify the primary groups to be targeted for participation in recreation questionnaires. Some of these groups will be targeted because their input is needed to address other studies, such as Study #7—Reservoir Boating Survey. It is likely that these groups (which are not mutually exclusive) will include the following:

- Recreational visitors to the Study Area, but not boaters;
- Recreational visitors who visit the Study Area primarily for reservoir boating;
- Recreational visitors who visit the Study Area primarily for angling;
- Household survey of residents throughout California;
- Recreation visitors that recreate at other similar sites in northern California; and
- Local business operators dependent on recreational spending for income.

A list of project-related surveys and visitor studies is included in Attachment A. This list, combined with a review of previous questionnaires, will serve as the basis for developing topics and specific questions for the questionnaires. Given the complexity of issues, numerous information needs, and the number of major groups to be surveyed, multiple questionnaires will be developed.

Task 2—Review Relevant Previous Questionnaires/Coordination with Ongoing Studies

Prior to developing the six or more questionnaires, the research team will review previous and ongoing recreation studies. The team will closely review the work completed by Guthrie et al. (1997), including a review of 900 comments compiled as part of their report.

The team also will communicate with the recreation department at Chico State University to determine if other recreation studies have been done, or are planned for the near future. The team will coordinate its efforts with DPR's year-long survey of selected state parks. This survey is expected to start in 2002, and is being coordinated by Patricia Westrup in DPR's Sacramento office. Finally, the team will consult and coordinate with the task leader for the two economic studies (Study #18—Recreation Activity and Spending/Economic Impacts and Study #19—Fiscal Effects) to ensure the appropriate economic information is collected.

Task 3—Develop Questionnaire Strategy and Administration

Questionnaire Survey Strategy

Based on the target user groups identified at the present time, at least six questionnaires will be necessary to adequately assess the attitudes, preferences, and characteristics of the user groups identified. These proposed questionnaires will focus on groups listed under Task 1.

Having separate questionnaires offers several benefits. Separate questionnaires will minimize the time spent administering surveys, will make administration straightforward by avoiding instructions that require respondents to skip questions or entire sections within a questionnaire, and will facilitate reporting and analysis of results for each target group. Each questionnaire is described briefly below.

Recreation Visitor Questionnaire. Information will be collected from visitors on-site. The recreation visitor questionnaire will solicit quantitative information from individuals that are not engaged in reservoir boating. If a high refusal rate to complete surveys on-site is encountered, participants may be given the option of completing questionnaires at a later date and mailing them to the research team.

Reservoir Boating Questionnaire. This on-site questionnaire will solicit quantitative information from reservoir boaters. If a high refusal rate to complete surveys is encountered, participants may be given the option of completing questionnaires at a later date and mailing them to the research team.

Angler Questionnaire. This on-site questionnaire will solicit information from anglers on catch efforts, species caught, and areas fished. If a high refusal rate to complete surveys is encountered, participants may be given the option of completing questionnaires at a later date and mailing them to the research team.

Household Resident Questionnaire. The Household Resident Questionnaire will solicit quantitative information via a mail survey about local residents' and other Californians' interest in recreation within the Study Area, and various development scenarios that may motivate them to visit the Study Area. This target group will be comprised of four subgroups including:

1. Residents of Butte County
2. Residents of the Sacramento area
3. Residents of the San Francisco Bay Area
4. Residents from other locations within California

Recreation at Similar Sites Questionnaire. This questionnaire will be administered on-site at alternate reservoir locations. It will solicit quantitative information from individuals recreating at other reservoirs regarding what attracted them to that area, activities they engaged in, and their willingness to consider visiting the Study Area.

Recreation-Related Private Business Owner/Operator In-Depth Interview. This interview will solicit both quantitative and qualitative information from local businesses dependent on recreation expenditures, as well as realtors. This interview will take less than 1 hour for completion. This approach allows much more opportunity for open-ended discussions than the visitor questionnaires. Use SIC codes to identify types of businesses affected.

Questionnaire Administration

Training Field Staff. A field coordinator will direct all work involving the field crew. He or she will spend the majority of his or her time in the field training and monitoring staff, helping with logistical issues, and occasionally collecting data as needed.

It is anticipated that a field crew of five to seven individuals will be used to support all the recreation field studies. Depending on the results of the pre-testing of questionnaires, it may be necessary to hire bilingual staff. Discussions with DPR managers have indicated that recreational use by Hmong-speaking groups occurs within the Study Area. Responses from this group may be best obtained through a focus group approach, using an interpreter. With regard to other ethnic groups, there also may be a need to conduct interviews in Spanish if a significant proportion of those contacted for interviews are Latino and prefer to communicate in Spanish. Field staff will be trained in data collection protocols in late Winter or early Spring.

Sampling On-site Questionnaires. For the on-site questionnaires sampling will occur throughout the year during regularly scheduled intervals, currently every 3rd week. Within a given time interval, visitors at a particular site or area will be contacted on weekdays and weekend days, and those particular weekdays or weekends will be randomly selected. Sampling days will include 2 weekend days in Spring 2002 (May) prior to Memorial Day weekend. During Summer 2002, surveys will be conducted for 12 days during the peak period (Memorial Day to Labor Day with 8 mid-week days and 4 weekend days). During Fall 2002 surveys will be conducted for 8 weekend days in the (After Labor Day to November 30), and during Winter (December 1, 2002-March 15, 2003) surveys will be conducted for 4 weekend days. To complete Spring sampling efforts, another 4 days will be randomly selected and visitor surveys conducted in between March 15 and April 30, 2003.

To ensure that some visitors are contacted during special events some days will not be randomly selected. Sampling will also be stratified to ensure that a sufficient number of respondents from Spring, Summer, Fall, and Winter as well as from weekdays and weekends are selected. This sampling scheme will ensure that visitors from different areas and from different seasons throughout the year will be sampled proportionally to use levels. In preparing the sampling schedule, another 6 days will be added as alternates. These days will be used for surveying if other days are canceled due to bad weather or unforeseen circumstances. An example of a sampling schedule is shown in Table 1, and the target number of anticipated completed questionnaires/interviews is shown in Table 2.

Table 1
Tentative on-site Sampling Schedule and Anticipated Number of Completes

Season	# of days	Anticipated Completes ¹	Season	# of days	Anticipated Completes ¹
Spring 2002			Fall 2002 (cont.)		
Week 1			Week 9		
Week 2	A ²		Week 10		
Week 3	4		Week 11		
Week 4			Week 11		
Subtotal	4	80	Subtotal	8	360
Summer 2002			Winter 2002-2003 ³		
Week 1			Week 1	A ²	
Week 2			Week 2		
Week 3	3	135	Week 3	2	80
Week 4			Week 4		
Week 5	A ²		Week 5		
Week 6	3	135	Week 6	2	80
Week 7			Week 7		
Week 8			Week 8		
Week 9	3	135	Week 9		
Week 10			Week 10	A ²	
Week 11			Week 11		
Week 12	3	135	Week 12		
Subtotal	12	540	Subtotal	4	160
Fall 2002			Spring 2003		
Week 1			Week 1		
Week 2			Week 2	2	90
Week 3	3	135	Week 3		
Week 4	A ²		Week 4		
Week 5			Week 5	2	90
Week 6	3	135	Week 6	A ²	
Week 7			Subtotal	4	180
Week 8	2	80			
			Totals	32 days	1,320 completes

- 1 Anticipated number of completes assume that three field interviewers will work during each day contacting visitors for 7 hours. On the average, interviewers will complete 14-15 questionnaires per day. Seasonal variation will cause variation in the average number of completed questionnaires per day.
- 2 Denotes alternative sampling days.
- 3 No sampling will occur between December 20, 2002 and January 4, 2003.

The total number of anticipated on-site completed questionnaires is 1,320. Adjusting for the fact that some questionnaires may not be complete, or may have been filled out improperly, the anticipated number of questionnaires containing usable information is 1,280.

Sites surveyed will include campgrounds, day use areas, boat launch areas, and marinas within the Study Area. Sampling intensity will be determined in advance for each site; however, at undeveloped and low use sites, all visitors may be sampled to ensure an adequate sample size for those areas. A detailed sampling schedule will be prepared and submitted to local operations staff to ensure that there are no conflicts with contacting and surveying visitors at these sites on the days randomly selected. A 1 day pre-test of the questionnaires will be conducted in the field prior to full implementation. If problems with clarity or the length of the questionnaires are encountered, they will be addressed prior to data collection. Additional questions may need to be added or modified to address study-specific needs.

Sampling Mailback Questionnaires. For household residents that will be sent questionnaires via mail, potential respondents will be randomly selected from several different lists. These lists will be generated from county tax records, driver's license information, or local phone books. Each packet will include a cover letter, a copy of the survey, and a stamped return envelope. One week to 10 days after this initial mailing, a postcard reminder will be sent to those individuals who have not returned a survey in order to ensure an adequate sample size and response rate. The anticipated number of completed mailback questionnaires is 400 (Table 2).

Table 2
Anticipated Number of Completes and Error Rates for Target Groups

Target Group	Anticipated # Completes	Error rate
1. Recreation visitors to the Study Area	400	+/- 4.9% ¹
2. Reservoir Boaters	300	+/- 5.6%
3. Anglers	200	+/- 6.8%
4. Household Survey	400	+/- 4.9%
- Butte County	100	+/-9.8%
- SF Bay Area	100	+/-9.8%
- Sacramento area	100	+/-9.8%
- all other areas in California	100	+/-9.8%
5. Recreation visitors to similar sites	300	+/-5.6%
6. Recreation-related business owners	20	N/A

1 Error rate is intentionally set lower for this group, since there will be additional analyses on smaller subgroups representing different recreation activities.

Task 4—Design and Administer the Questionnaires

This task will involve developing the design of the questionnaires to be used in each of the six user group surveys identified above; pre-testing surveys for clarity and conciseness; and administering them in the field. Pre-tests will also reveal whether it is necessary to have questionnaires printed in multiple languages. Questionnaires will be designed according to procedures and guidelines developed by Babbie (1983) and Dillman (1999). The overall intent of these procedures is to ensure questions are asked in a logical sequence, are unbiased, understandable, and relatively easy to answer. Topics that cannot meet these guidelines are more appropriately investigated with other methods.

Recreation Visitor Questionnaire. The recreation visitor questionnaire will be administered on-site and will solicit questions in the following areas:

- Socio-demographic characteristics (age, gender, etc.)
- Visitors' activities (general and primary)
- Trip characteristics (group size, length of trip, primary and secondary destinations)
- Crowding and capacity issues (land- and water-related, social carrying capacity)
- Use and opinion of adequacy/condition of recreation facilities
- Seasonal use
- Visitors' areas of residence
- Types of desired facility or site improvements
- Types of activities visitors would like to see offered within the Study Area
- Special events and programs that visitors would like to see offered within the Study Area
- Perception of recreation-related issues/problems
- Attitudes toward potential recreation management actions
- Economic expenditures
- Previous visits
- Adequacy of parking for automobiles and boaters

As detailed above, separate questionnaire sections may be created that will include questions regarding specific recreation activities of interest. Respondents would only answer questions in the sections that are applicable. These sections would provide an opportunity to obtain information related to the specific traits, issues, and concerns of each of these user groups.

Reservoir Boating Questionnaire. This questionnaire will contain some of the same questions as the recreation visitor questionnaire. It also will assess boaters' attitudes and opinions about other boaters and the project's reservoirs. Boaters' attitudes and opinions will be summarized regarding potential water surface crowding; safety; user conflicts; reservoir conditions; boating regulations; launching and docking facilities; pool levels; and potential management and facility improvements.

Angler Questionnaire. This questionnaire will contain information about the types of project operations and management strategies that may affect optimal fishing locations and the balance of warmwater and coldwater fishing opportunities.

Household Questionnaire. This questionnaire will solicit information via a mailback questionnaire in the following areas: attitudes, perceptions, and characteristics of individuals who have never or only infrequently recreated in the Study Area. The questionnaire will also replicate some of the items in the recreation visitor questionnaire so that data from the two groups can be compared.

Similar Recreation Sites Questionnaire. Visitors at similar sites such as Folsom or Shasta Lakes will be asked to complete this questionnaire. It will solicit on-site quantitative information about the following topics: previous visits and related satisfaction levels; intent to return; reasons for visiting the reservoir in question; reasons for not visiting the Study Area; trip characteristics; and visitation patterns relative to comparable facilities.

The likelihood of visiting the Study Area in response to several different recreation development scenarios will be investigated. The questionnaire will also replicate some of the items in the recreation visitor questionnaire so that data from the two groups can be compared.

Recreation-Related Private Business Owner/Operator Questionnaire. The recreation-related private business owner/operator questionnaire will assess the attitudes, perceptions, and opinions of area business owners on issues related to reservoir recreation, operations, and visitors. The objective is to obtain more information on visitors' spending patterns, seasonality of spending, and potential recreation developments that could increase the average expenditure per visitor to the Lake Oroville area. The information obtained from owner/operators and realtors will address the following topic areas:

- Visitor expenditures, by activity if possible
- Occupancy data (where applicable for campgrounds and resorts)
- Socio-demographic components of customers
- Opinion of adequacy and condition of recreation facilities within the Study Area
- Expansion potential/plans for services or facilities
- Opinions of visitors' needs/issues
- General business characteristics (seasonal variation, years in operation)
- Seasonal use

Researchers will conduct interviews with recreation-related business owners in the area, either in person or by phone. A questionnaire form will be developed to elicit business owner responses on a wider variety of recreation-related issues than the other group questionnaires. The survey sample for this particular survey will include selected recreation-related businesses in the Lake Oroville area. These businesses may include, but are not limited to, hotel/motel owners; marina/boating supply store owners; sporting good stores; and general store owners. The target number of completed recreation-related private business owner/operator surveys is 20.

Task 5—Analysis of Survey Data

The field coordinator will review completed surveys at a minimum, on a weekly basis, checking for legibility and completeness. He or she will also note any values that appear to be “outliers” (e.g., those values that are unusually high or low numbers) and will ask the interviewer to confirm the accuracy of these data. After this initial QA/QC review, data will be entered and analyzed using an Access database. These data will then be reviewed to ensure consistency in hard copy form values and the resulting database. Completed data files will be examined for outliers. In some analyses outliers may be removed. These data will then be analyzed using SPSS (statistical modeling software) to produce results that can be queried and summarized into major points. SPSS will facilitate in-depth analysis of these data to determine important subsets of recreation visitors (boaters, anglers) and their distinct characteristics and use patterns, including cross-tabulations for selected groups.

Task 6—Draft Final Report Preparation

A report of the survey results produced from the analyses in Task 4 will be prepared and will detail results from all of the items in each of the five surveys. Detailed results will be provided in tabular and graphical form including tables, charts, graphs, and figures.

Each of these will include statistical information specific to the item including the number of responses, the frequency distribution of responses, and the mean and median where applicable. These graphical products will be part of a report that will summarize the overall findings and identify key issues and important conclusions.

6.0 Results and Products/Deliverables

Results

For each recreation target group, summary data tables sorted by each survey question will be developed. Descriptive statistics such as the proportion of respondents supporting a new management action, and averages will be computed for all questions. Statistical tests (chi-square, ANOVA) will be used to test for meaningful differences between important subgroups of interest.

A few examples of how results will be used are provided below. The results of this study will provide insight into the proportion of visitors who feel crowded, and under what conditions they have such perceptions. This will allow the research team to identify solutions to alleviate crowding (redistribute use, build new facilities). Another way the results could be used is to provide the research team with an understanding of the types of new recreation facilities or programs that might attract new visitors to the Study Area. A final example is that the team will understand how much money is spent in the Oroville area (Butte County) for certain recreational activities. Information obtained from both visitors and local business managers should provide some insights regarding ways to increase visitors' expenditures.

Products/Deliverables

The following products will be developed for this study:

- Interim Report
- Draft Final Report

Both reports will contain an executive summary; an introduction with goals and objectives; methods; results; and a discussion identifying areas of greatest interest for future recreation development.

7.0 Coordination and Implementation Strategy

Coordination with Other Resource Areas/Studies

This study will require coordination with Study #7—Reservoir Boating Survey; Study #8—Carrying Capacity; Study #14—Assess Regional Recreation and Barriers to Recreation; Study #17—Recreation Needs Analysis; and Study #18—Recreation Activity and Spending/Economic Impacts.

Issues, Concerns, Comments Tracking and/or Regulatory Compliance Requirements

This study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demand. It specifically addresses issues RE 1, 2, 5-39, 53, 55, 56, 60, 61, 64-83, 95, 96, 104 and 105.

8.0 Study Schedule

Data collection: May 2002 through April 2003.

Data analysis and report writing: May through October 2003.

Interim Report due: November 2002.

Draft Final Report due: November 2003.

9.0 References

Babbie, E. 1992. *The Practice of Social Research*. 6th edition. Wadsworth Publishing, Belmont, CA.

Dillman, D.A. 1999. *Mail and Telephone Surveys: The Total Design Method*. John Wiley and Sons, New York, NY.

FERC. 1996. *Recreation Development at Licensed Hydropower Projects*. Vol. 12.

Guthrie, R., D. A. Penland, and E. Seagle. 1997. *Lake Oroville State Recreation Area Recreational Use Study*. Unpublished report, Chico State University, Chico, CA.

Attachment A

Existing Information

1. 1997 DPR Public Opinion on Outdoor Recreation in California
2. 2001 DPR Statewide parks survey (in developmental stage)
3. A Study of Boater Recreation on Lake Berryessa, California
4. Poe Hydroelectric Project Recreation Studies
5. Upper North Fork Feather River Project Recreation Studies
6. Lake Oroville Attendance Figures
7. LOSRA Attendance Data summaries (1995-2000)
8. LOSRA Recreation Plan
9. DPR and DWR historical recreation plans (Bulletin 1176)
10. 1997 Chico State University Study by Guthrie et al.
11. Butte Sailing Club turnouts.
12. Sailing and Boating Safety Instruction Programs.

Lake Oroville On-Site Recreation Visitor Questionnaire

Introduction

Again, thanks for taking the survey. EDAW is helping the Department of Water Resources (DWR) collect information from visitors to the Lake Oroville Area. The information is collected to help DWR develop a comprehensive recreation plan for this area. All responses will be kept confidential, we won't mail you anything or sell your address to businesses, and this survey takes about 15 minutes. May I proceed?

Let's start with a few questions about you, then I'll ask about your visit to the area.

1. What is your age? _____ years. [Don't ask] Check: Male ☐ Female ☐

2. What is the highest level of education you have completed?

1. Some high school	2. High school graduate	3. Some college
4. Bachelor's degree	5. Master's degree	6. Ph.D., J.D., M.D.

3. What county do you live in (primary residence)? _____

4. What is your postal zip code? _____ (5 digits).

Now let's talk about your visits to the area.

5. Have you ever been here before?

No ☐ Yes ☐ If yes, do you consider yourself:

- ☐ A regular visitor to this area (been here many times)
- ☐ An occasional visitor (been here a few times before)
- ☐ An infrequent visitor (been here once or twice before)

6. Do you come here year round

No ☐ Yes ☐ If yes, which season: _____

7. How many people in your group today, including yourself, are visiting this area? _____

8. How many vehicles did your group use to come to this area? _____

9. When did you arrive at this area? ____/____/____ Date Time _____ ☐ a.m. ☐ p.m.

10. When will you leave this area? ____/____/____ Date Time _____ ☐ a.m. ☐ p.m.

11. On this trip, are you staying overnight at the Lake Oroville area?

☐ No Yes ☐ If yes, how many nights will you stay in the area? _____
where will you stay? _____

12. What is your primary destination on this trip? _____

13. Do you have a secondary destination on this trip? _____

14. Please estimate how much money people in your group will spend in the Lake Oroville area, and elsewhere in Butte County during your current visit.

\$ _____ Gasoline	\$ _____ Lodging or camping costs	\$ _____ Other food and drink
\$ _____ Restaurants	\$ _____ Other costs (bait, film, etc.)	

Now let's talk about your activities on this visit to the area.

15. Which of the following activities are you and/or members of your group participating in during your visit to this area?

1. Motor boating	2. Kayaking	3. Swimming	4. Sightseeing
5. PWC use	6. Fishing	7. Sunbathing	8. Wildlife viewing
9. Water skiing	10. Hunting	11. Hiking	12. Riding OHVs
13. Sailing	14. RV camping	15. Horseback riding	16. Golf
17. Windsurfing	18. Tent camping	19. Biking on roads/paths	20. Other _____
21. Canoeing	22. Picnicking	23. Mt. biking on trails	24. Other _____

16. Of the activities you've mentioned, what are the top three that you're participating in at this area?
(write in the corresponding number)

Primary activity _____ **Second** activity _____ **Third** activity _____

17. Do you plan to visit other areas on this trip?

No ☐ Yes ☐ If yes, which areas:

18. Are there recreation activities not offered here you would like to do?

No ☐ Yes ☐ If yes, which activities: _____

19. Are there special events and programs not offered here you would attend?

No ☐ Yes ☐ If yes, which events and programs: _____

Now let's talk about your reaction to the number of visitors you've seen on this visit to the area.

20. How crowded do you feel at the area you are currently visiting? Please indicate from among the following categories: Not at all crowded; Slightly crowded; Moderately crowded; Extremely crowded.

1-----2-----3-----4-----5-----6-----7-----8-----9
Not at all Slightly Moderately Extremely
Crowded Crowded Crowded Crowded

21. How would you compare the level of crowding today with what you expected to experience?

1. Less crowded	2. About as expected	3. More crowded	6. I didn't know what to expect
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22. Did you participate in activities on the water today?

No ☐ If no, skip to #24.

Yes ☐ If yes, how crowded did you feel on the sections that you visited. **[Provide map]**

	Not at all Crowded	Slightly Crowded	Moderately Crowded	Extremely Crowded	N/A
Lake Oroville A	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>
Lake Oroville B	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>
Lake Oroville C	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>
Lake Oroville D	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>
Therm. N. Forebay	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>
Therm. S. Forebay	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>
Therm. Afterbay	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>
F. River below Dam	1-----2-----3-----4-----5-----6-----7-----8-----9				<input type="checkbox"/>

23. Have you ever changed your visits to the Lake Oroville area because of crowding?

☐ No, because this is my first visit

☐ No, I have never changed my visits to this site/area because of crowding

☐ Yes...(Probe and check all that apply)

24. If you have changed your visits, please indicate from among the following categories: Never, Sometimes, Often, Always, and Not Applicable for my visits. **Note area.**

Description of change	Never	Sometimes	Often	Always	N/A	Area at L. Oroville
Visit this site earlier or later in the year to avoid crowds.						
Visit site on weekdays to avoid crowds.						
Avoid visiting this site during holiday weekends						
Come earlier or later in the day to avoid busy times.						
Go to other reservoirs in northern California if my favorite site here is too crowded.						
Go to other campsites outside the Lake Oroville area						
Camp at undeveloped areas along roads at Lake Oroville						

25. How would you rate Lake Oroville's water level today in terms of how it affected your ability to enjoy lake-related recreation activities? Please indicate from among the following categories:
[Read categories]

<i>Totally Acceptable</i>	<i>Moderately Acceptable</i>	<i>Neutral</i>	<i>Moderately Unacceptable</i>	<i>Totally Unacceptable</i>	<i>Doesn't Apply to Me</i>
1. <input type="checkbox"/>	2. <input type="checkbox"/>	3. <input type="checkbox"/>	4. <input type="checkbox"/>	5. <input type="checkbox"/>	6. <input type="checkbox"/>

26. How would you rate the lake or river water level today in terms of how safe it is to use for recreation? Please indicate from among the following categories:
[Read categories]

<i>Totally Acceptable</i>	<i>Moderately Acceptable</i>	<i>Neutral</i>	<i>Moderately Unacceptable</i>	<i>Totally Unacceptable</i>	<i>Doesn't Apply to Me</i>
1. <input type="checkbox"/>	2. <input type="checkbox"/>	3. <input type="checkbox"/>	4. <input type="checkbox"/>	5. <input type="checkbox"/>	6. <input type="checkbox"/>

27. You may have experienced conditions that were undesirable during your current visit to the Lake Oroville area. Please indicate from among the following categories: Not a Problem, Slight Problem, Moderate Problem, and Big Problem. Note location if possible.

Condition	Not a problem	Slight problem	Moderate problem	Big Problem	Specific Location
Floating debris					
Cost to use facilities					
Sanitation at facilities and or recreation areas					
Amount of parking					
Conflicts with PWCs					

28. Are there facilities you feel need improvements or need to be developed here?

No ☐

Yes ☐ If yes, where?

(improvements) _____

(developments) _____

That is the end of the survey, do you have any additional comments about recreation here?

Thank you for your participation in this important recreation study!

For office use.

Date _____

Location _____

Survey No _____

Staff's Initials _____